



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/678,582

10/03/2000

Jan Bares

XER 2 0345 D/96418

5605

7590

04/22/2005

Albert P Sharpe III Esq
Fay Sharpe Fagan Minnich & McKee LLP
1100 Superior Avenue
7th Floor
Cleveland, OH 44114-2518

EXAMINER

NGUYEN, MADELEINE ANH VINH

ART UNIT

PAPER NUMBER

2626

DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/678,582

Applicant(s)

BARES ET AL.

Examiner

Madeleine AV Nguyen

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on on November 12, 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-14, 16, 18 and 19 is/are rejected.
- 7) ☒ Claim(s) 8, 15 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/12/05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This communication is responsive to amendment filed on November 12, 2004.

Applicant amends claims 1, 9.

Response to Arguments

1. Applicant's arguments filed November 12, 2004 have been fully considered but they are not persuasive.

Applicant remarks that neither Steinkirchner and Buchanan disclose a method for classifying pixels into one of a neutral and a non-neutral category, and determining an average color identifier of the group of pixels as a function of the color identifiers of the pixels of the group and classifying one of the pixels within the group into one of the neutral and non-neutral category.

Steinkirchner discloses a color/neutral discriminator 114 (Fig.10) which discriminates between color (non-neutral) and neutral images "by looking at each pixel, or the average of a small area of pixels" (col. 5, lines 27-54). Although Steinkirchner does not directly teach in details the process of determining an averaging color identifier of the group of pixels, it would have been obvious to one skilled in the art at the time the invention was made to consider the process of looking at the average of a small area of pixels equivalent to the above mentioned step or means since by averaging a small area of pixels (a group of pixels) and comparing that with some programmable threshold, the small area of pixels or pixels belonging to the small area is classifying into one of the neutral category and the color (non-neutral) category as claimed.

Therefore, the rejections of claims 1-7, 9-14, 16, 18-19 are maintained.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6, 7, 9, 12-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinkirchner (US Patent No. 5,392,365) in view of Buchanan (US Patent No. 5,001,653).

Concerning claims 1, 2, 9, 16, Steinkirchner discloses a method of and apparatus for classifying pixels into one of a neutral category and a non-neutral category comprising the steps of or means for inputting a group of pixels within an image; determining an average of the group of pixels; classifying one of the pixels within the group into one of the neutral category and the non-neutral category.

Steinkirchner does not directly teach in details the process of determining an averaging color identifier of the group of pixels. However, Steinkirchner discloses a color/neutral discriminator 114 (Fig.10) which discriminates between color (non-neutral) and neutral images “by looking at each pixel, or the average of a small area of pixels” (col. 5, lines 27-54). Thus, the discriminator 114 can determine the average color value of a small area of pixels (or a group of pixels) and looks at the average color value of the small area of pixels to classifying one of the pixels within the group of pixels into one of the neutral category and the non-neutral category (color category) based on a comparison with some programmable threshold (col. 5, lines 49-54).

Art Unit: 2626

It would have been obvious to one skilled in the art at the time the invention was made to consider that Steinkirchner teaches the step of or means for determining an average color identifier of the group of pixels as a function of the color identifiers since the process of looking at the average of a small area of pixels in Steinkirchner equivalent to the determination of an average color identifier of the group of pixels (average of a small area of pixels) as a function (comparison of some programmable threshold) of the color identifiers (neutral or color) of the pixels in the group.

Steinkirchner fails to teach a memory storing color identifiers in a raster format. It is commonly known in the art that color data can be stored in a memory as a raster format. Buchanan support that well known in the art by teaching in the Background of the Invention that some color image data, provided in raster format, can be received and stored in a memory (col. 1, lines 42-45). It would have been obvious to one skilled in the art at the time the invention was made to combine the teaching of a memory for storing color image data according to a raster format in Buchanan to the method and apparatus in Steinkirchner as a matter of well known in the art in order to improve the discrimination process when comparing the average value of the small area of pixels with some programmable threshold.

Concerning claims 3, 14, Steinkirchner further teaches that the classifying step includes comparing the average color identifier with a threshold (col. 5, lines 51-54).

Concerning claim 4, Steinkirchner further teaches that the classifying step includes the step of determining if the average color value corresponds to one of a plurality of neutral colors (col. 5, lines 27-54).

Art Unit: 2626

Concerning claim 6, Steinkirchner further teaches producing an output of the pixels within the group (col. 5, lines 28-29).

Concerning claims 7, 12, 13, Steinkirchner further teaches, for each of the pixels within the group, printing a color associated with the color identifier (black for neutral and color for non-neutral image data) via a color-printing device (col. 2, lines 51-56; col. 5, lines 12-17; col. 8, lines 1-3).

4. Claims 5, 10, 11, 18, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinkirchner in view of Buchanan as applied to claim 1 above, and further in view of Schweid (US Patent No. 6,529,291).

Concerning claims 5, 10, 11, 18, 19, Steinkirchner in view of Buchanan fails to teach that the pixel classified as neutral is rendered as one of a plurality of neutral colors and that the one classified as non-neutral is rendered with one of a plurality of non-neutral colors using the color space $L^*C^*h^*$. Schweid discloses rendering procedure of non-neutral and neutral color images (Abstract; col. 1, lines 7-13; col. 2, lines 45-49; col. 3, lines 45-59; col. 4, lines 61-65; col. 5, lines 19-21; col. 6, lines 7-20, lines 63-65; col. 7, lines 61-64; col. 8, lines 1-4). Schweid further teaches the use of the input color space $L^*a^*b^*$ that is directly mathematically convertible to $L^*C^*h^*$ (col. 3, line 1; col. 5, lines 42-44). It would have been obvious to one skilled in the art at the time the invention was made to combine the above teaching of Schweid to the system in Steinkirchner in view of Buchanan since they are from the same filed of endeavor and thus constitute analogous art, being that of color digital image processing which discriminates

Art Unit: 2626

different category of color image data in order to have a smooth transition from a color (non-neutral) color to monochrome (neutral), (Abstract).

Allowable Subject Matter

5. Claims 8, 15 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an Examiner's Statement of Reasons for Allowance: Claims 8, 15 and 17 are objected over the prior art of record because the Examiner found neither prior art cited in its entirety, nor based on the prior art, found any motivation to combine any of the said prior art which teaches a method and apparatus as claimed in claims 1, 9, 16 and further comprising steps of or means for comparing the average color identifier in the second color space with a threshold color identifier in the second color space, wherein the threshold color identifier being determined as a function of a position along a neutral axis in the second color space; the processing unit segments the image for identifying rendering classes in the image and determining if the respective groups of the image data are included in any of the classes, wherein the processing unit determines if the respective groups represent one of the neutral and the non-neutral colors as a function of whether the group of the image data is included in one of the classes; comparing the average color of the one of the $L^*a^*b^*$ color space data and the $L^*C^*h^*$ color space data with a threshold function value which is determined as a function of L^* .

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Becker et al (US Patent No. 6,373,483) discloses a method, system for a new data for determining distribution weights that represent values of a categorical variable.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

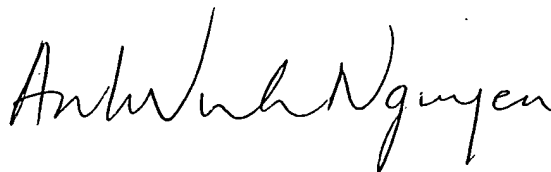
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Madeleine AV Nguyen whose telephone number is 571 272-7466. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A Williams can be reached on 571 272-7471. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Madeleine AV Nguyen". The signature is fluid and cursive, with the first name "Madeleine" and last name "Nguyen" clearly distinguishable.

Madeleine AV Nguyen
Primary Examiner
Art Unit 2626

April 7, 2005